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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,762	01/17/2006	Olivier Ruch	4590-477	1767
33308 7590 08/07/2009 LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314				
EXAMINER RAHMJOO, MANUCHER				
ART UNIT 2624		PAPER NUMBER		
MAIL DATE 08/07/2009		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/564,762

**Applicant(s)**

RUCH, OLIVIER

**Examiner**

MIKE RAHMJOO

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

As per system claim 38, applicant recites "means for determining a measure of proximity" and "automated calculation means" respectively. Examiner fails to see said "means for determining a measure of proximity" and "automated calculation means" throughout the entire specification.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112 first and second paragraphs as attempting to define a product (i.e., machine or apparatus) entirely by virtue of its function, in the absence of any recited structure.

Products must distinguish over the prior art in terms of their structure (or structure + structure's function when claimed functionally) rather than function alone

(MPEP 2114). Therefore, an "apparatus" not having structural limitations fails to "particularly point out and distinctly claim ..." the invention in accordance with 35 U.S.C. 112, 2<sup>nd</sup> paragraph.

Furthermore, while the specification disclosure may be enabling for a plurality of structural elements performing the claimed functions [1], the specification does not reasonably provide enablement for a single structural element (or no structural elements) performing all of the claimed functions. That is, given the claim in question, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims ("A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph" because a single means claim covers "every conceivable means for achieving the stated purpose" and "the specification disclosed at most only those means known to the inventor" - *MPEP, at paragraph 2164.08(a)*).

Applicant is advised to define the apparatus by virtue of the individual structural element that serve to perform the individual functions recited in the corresponding method claim.

The applicant needs to point out each structural element that is performing the image contour extraction.

[1] Even when an apparatus is disclosed as being computer implemented (e.g., software implemented on hardware), the requirement remains that there be some

structure recited in the body of the claim (e.g., a processor and a memory storing a program which when implemented performs the method steps). For purposes of “means plus function” language, individual disclosed steps corresponding to computer program elements operating on a processor (e.g., inputting, filtering, detecting and resolving) may be considered as separate means (*Dossel*, 115 F.3d at 946–47, 42 USPQ2d at 1885).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 20- 22, 28, 32 and 38 are rejected under 35 U.S.C. 102(e) as being  
Wenzel et al by (US PAP 2004/ 0037467), hereinafter, Wenzel.

As per claim 20, Wenzel teaches associating each point of the first contour (i.e., transformation via matching) with a point of the second contour (corresponding to the template or target image curve) determined as the closest, and

pairing each point of the second contour with one point of the first contour if said one point of the first contour exists (corresponding to the template or target image curve), by determining the point of the first contour which is closest (i.e., small or no

difference/ distance between the curves signifying a match) from among the set of points of the first contour that are associated with said point of the second contour see [191]. [199- 200] and figure 10 of Wenzel also teaches transformation of curves (corresponding to the first and second curves with corresponding points therein) more closely matching at iterations. It is obviated and needless to say that absent the point(s) of interest on the first curve would render any pairing null. The iterations as illustrated in figure 10 followed by the convergence of the grey and black curves wherein the value of max close to 1 represents the smallest distance (i.e., closest) from the between said curves.

As per claim 21, Wenzel broadly teaches the determination of a point that is closest to a given point is based on a true or discrete measure of the Euclidean (cross correlation matrix via Euclidean) distance between the two points see [204] and figure 12.

As per claim 22 and in light of the rejections made, Wenzel broadly teaches allocating a measure of proximity  $\text{Dist}(M.\text{sub}.i)$  of each point  $M.\text{sub}.i$  of the second contour to the first contour (i.e., target and template image curve), based on the measurement (i.e., computation of affine distance between said objects) of the distance from this point to the point of the first contour with which it is paired see [0204].

As per claim 28, Wenzel teaches applying as second contour, a template contour and as first contour, said image contour, so as to obtain the measure of proximity of each point of said template contour to said image contour (corresponding to the

template and the target image curves and small/ no difference in between to signify a match) see [0191].

As per claim 32, Wenzel teaches identification applied successively to each of the template contours of a collection of template contours (i.e., generation of mapped template image *discrete curves* as a sequence of points or pixels) see [0149].

As per claim 38 and in light of the rejections made, Wenzel teaches means for determining a measure of proximity (i.e., fig.3 computer system 102) between said image contour and each template of a database collection of templates (i.e., the computer system 102 of fig. 3) of determined objects to be recognized, and

Said means comprising automated calculation means (i.e., fig. 5 and CPU 202) for calculating a measure of proximity of each point of a model contour corresponding to a selected template to said image contour (i.e., computation of similarity and geometric pattern matching of the curves for identification by said computer system), said means of calculation being configured so as to compare contours, wherein said means of calculation are configured so as to perform the steps of a method of identification as claimed in claim 28.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23- 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenzel in view of Huttenlocher et al (US Patent 6249604), hereinafter, Huttenlocher.

As per claim 23 Wenzel does not teach said distance measure between two points of a pair is a measure corrected as a function of the difference of class of orientation.

However, Huttenlocher teaches said distance measure between two points of a pair is a measure corrected as a function of the difference of class of orientation (i.e., line spacing/ word group spacing corresponding to distance to follow the establishment of image orientation) see column 10 lines 55- 67.

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Huttenlocher into Wenzel to determine text orientation and text lines and therefore enable subsequent processing and spacing of the words for identification of the word shapes and recognition of the words or symbol strings based on the shapes to further add to the efficiency and utility of the device see column 6 line 1- 6.

As per claim 24 Huttenlocher teaches in the step of associating zero or one points of the second contour with each point of the first contour, the point that is closest from among the points of the second contour which have the same class of orientation as said point of the first contour is associated (corresponding to the establishing/ association of the word group spacing/ distance once the orientation is set) see column 10 lines 55- 67.



***Allowable Subject Matter***

Claims 25- 27, 29- 31, 33- 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed 07/09/09 have been fully considered but they are not persuasive.

In response to applicant's remarks on page 9 wherein applicant recites "Wenzel fails to disclose or teach an automated two-pass process as recited in claim 20, including a first step of determining each point of the image contour IM a point of the template contour CM that is the closest, and a second step, making an inverse pointwise pairing, by selecting for each point of the template contour CM, from among the points of the image contour which have been associated with it in the first step, the point of the image contour that is the closest to the point of the template contour, if it exists", examiner respectfully disagrees and points out that examiner fails to see said recitations as being claimed.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., feature argued above) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read

into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner also points to Wenzel and pairing each point of the second contour with one point of the first contour if said one point of the first contour exists (corresponding to the template or target image curve), by determining the point of the first contour which is closest (i.e., small or no difference/ distance between the curves signifying a match) from among the set of points of the first contour that are associated with said point of the second contour see [191]. [199- 200] and figure 10 of Wenzel also teaches transformation of curves (corresponding to the first and second curves with corresponding points therein) more closely matching at iterations. It is obviated and needless to say that absent the point(s) of interest on the first curve would render any pairing null. The iterations as illustrated in figure 10 followed by the convergence of the grey and black curves wherein the value of max close to 1 represents the smallest distance (i.e., closest) from the between said curves.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Inquiry**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is 571-272-7789. The examiner can normally be reached on 8 AM- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Mike Rahmjoo

August 05, 2009

/Matthew C Bella/

Supervisory Patent Examiner, Art Unit 2624